useful such as the Commodity Flow Survey (CFS 2002), and reports of the Oregon departments of agriculture, geology, energy and environmental protection. The study also established a procedure for routing trucks based on these supplemental sources. Finally, the validation and refining of Transearch database were done by comparing similar data with CFS data.

Table 1 Candidate Models: Summary of Data Requirements

Model	Data Requirements
Three-step Model	Travel survey data, goods movement data, extensive classification count data, employment data by category type, special truck generators, weigh station data, truck inventory, extensive network data, and trip length distribution.
Four-step Model	All of the same data plus additional survey data, railway data, and roadway attribute data.
Commodity Flow Model	Goods movement data, population and employment data, coarse network with basic data, trip length distribution minimal classification count data.
Synthetic Models	Synthetic OD trucks/freight data, employment data, coarse network with basic data, trip length distribution, truck count data.

Table 2 Candidate Models: Summary Advantages

Model	Advantages
Three-step Model	Predictive model. Detailed level analysis. Can model a greater number of commodity flows.
Four-step Model	Same as above. Can model a greater number of mode classes.
Flow Model	Low cost. Sketch level development and implementation. Straight forward application
Synthetic Model	Low cost. Acceptable level of estimates in case no flow data are available

Table 3 Candidate Models: Summary of Disadvantages

Model	Disadvantages
Three-step Model	Data intensive. High data collection cost. Expensive to develop. High development and implement time.
Four-step Model	Same as above. Requires advanced user knowledge.
Flow Model	Static model in current state. Coarse level of geography.
Synthetic Model	Poor synthetic OD estimates lead to poor truck assignments.

Freight Analysis Framework 2 (FAF2) is an alternative data source that can be used at no cost if funds are not available for purchasing Transearch data. FAF2 includes synthetic estimates of county to county truck flows among major metropolitan areas, states, regions, and international gateways. It provides average